

Height Is Risk Factor for Diabetic Amputations

BY BRUCE JANCIN

ORLANDO — Taller patients with type 2 diabetes are at greater risk for lower-limb amputations, according to a secondary analysis from the FIELD Study.

In FIELD (Fenofibrate Intervention and Event Lowering in Diabetes), greater height was an independent predictor of amputation during 5 years of prospective follow-up. For every 10 cm of height beyond that of patients in the lowest tertile, the risk of an amputation rose by 60%, Dr. Kushwin Rajamani reported at the annual scientific sessions of the American Heart Association.

The FIELD study randomized 9,795 type 2 diabetes patients aged 50-75 years in double-blind fashion to 200 mg/day of micronized fenofibrate or placebo. After 5 years, the fenofibrate treatment failed

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to lower the combined primary end point of nonfatal MI or death due to coronary heart disease, compared with placebo. During those 5 years of follow-up, 115 patients had one or more nontraumatic lower-limb amputations due to diabetes.

The finding that height was an independent predictor of amputation in FIELD confirms an earlier report from a large observational study conducted in Taiwan, noted Dr. Rajamani of the National Health and Medical Research Council Clinical Trials Centre at the University of Sydney.

The Taiwanese cross-sectional study involved structured telephone interviews conducted with 93,116 type 1 or 2 diabetes patients. Every 10-cm increment in height was independently associated with an adjusted 16% increase in prevalent lower-limb amputation. And in the subgroup comprising the 9,295 participants for whom data on fasting plasma glucose and lipid levels were available for inclusion in the statistical modeling adjustment, every 10-cm increase in height was associated with a 79% increase in prevalent amputation (CMAJ 2006;174:319-23).

The explanation for this now-confirmed link between height and amputation risk in diabetic patients is unclear, according to Dr. Rajamani. Although it is known that taller diabetic patients are more likely to have peripheral sensory loss than shorter patients and hence are at increased risk of lower-extremity ulcers, in FIELD, patient height was predictive of increased amputation risk independent of whether diabetic neuropathy was present.

Neuropathy also was an independent predictor of on-study amputations in FIELD, with an associated 2.7-fold risk. The other main predictors were previous nontraumatic amputation or diabetic

skin ulcer, with a 5.6-fold risk; peripheral vascular disease, with a 2.5-fold risk; and age, with a 70% increase in risk for every 10 years older than age 50.

Of note, lipid variables were not predictive of amputation risk. However, in another recent secondary analysis from FIELD, Dr. Rajamani and coworkers found that fenofibrate therapy was associated with a significant 36% reduction in the relative risk of a first-ever ampu-

tation and a 47% reduction in the risk of below-the-ankle amputations without known large-vessel atherosclerotic disease. These findings suggest that the protective effect against amputation documented for fenofibrate in FIELD involves nonlipid mechanisms (Lancet 2009;373:1780-8).

The FIELD findings together with the earlier Taiwanese study suggest there may be particular value in aggressively

targeting taller diabetic patients for closer monitoring to promote early detection and prompt treatment of leg ulcers in an effort to avoid diabetic amputations, Dr. Rajamani said. ■

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